

CLAIMS

1. A method for triggering an uplink transmission in a cable modem, comprising the steps of:

- receiving a number of time indicators in a downlink direction,
- 5 - establishing knowledge about a total time offset related to propagation delays in a network from which the time indicators are received,
- establishing knowledge about an allocated uplink transmission slot number determined in relation to the received time indicators,
- reducing the total time offset into a remainder value that is smaller than the total
- 10 time offset,
- synchronizing a shifted slot counter to a shifted time base which has an offset to the time base provided by the received time indicators, said offset being equal to said remainder value, and
- generating an uplink transmission triggering signal as a response to said shifted
- 15 slot counter giving a certain slot number.

2. A method according to claim 1, wherein the step of reducing the total time offset into a remainder value comprises the step of reducing the total time offset into a remainder value that is smaller than the length of time between two consecutive

20 received time indicators.

3. A method according to claim 1, further comprising the step of adjusting the slot numbers in the shifted slot counter to take into account the difference between the total time offset and said remainder value, so that said step of generating an

25 uplink transmission triggering signal comprises the step of generating an uplink transmission triggering signal at a coincidence between a slot number given by said adjusted shifted slot counter and the allocated uplink transmission slot number.

4. A method according to claim 1, further comprising the step of converting the

30 allocated uplink transmission slot number into a shifted slot number to take into account the difference between the total time offset and said remainder value, so that said step of generating an uplink transmission triggering signal comprises the step of generating an uplink transmission triggering signal at a coincidence between a slot number given by said shifted slot counter and the shifted allocated uplink

35 transmission slot number.

5. A device for triggering an uplink transmission in a cable modem, comprising:

- means for receiving a number of time indicators received in a downlink direction,

- time indicator offset counting means for generating a shifted time base which has an offset to the time base provided by the received time indicators,
- a slot counter coupled to said time indicator offset counting means so as to synchronize itself to said shifted time base, and

5 - triggering signal generating means coupled to said slot counter for generating an uplink transmission triggering signal from the result given by said slot counter.

6. A device according to claim 5, wherein a maximum counting range of said time indicator offset counting means is shorter than one time interval between
10 successive time indicators.

7. A device according to claim 5, wherein said slot counter is programmable to adjust the slot numbers given thereby to take into account the difference between a total time offset and a current counting range of said time indicator offset counting
15 means, where said total time offset is an offset between a reference point within the received time indicators and a desired uplink transmission moment.

8. A device according to claim 5, wherein said triggering signal generating means comprise a slot comparator for comparing slot numbers given by said slot counter
20 against a preprogrammed slot number for generating said uplink transmission triggering signal on the basis of said comparisons.

9. A device according to claim 8, wherein said slot comparator is programmable to adjust said preprogrammed slot number to take into account the difference
25 between a total time offset and a current counting range of said time indicator offset counting means, where said total time offset is an offset between a reference point within the received time indicators and a desired uplink transmission moment.

10. A cable modem, comprising:

- 30 - means for receiving a number of time indicators in a downlink direction,
- means for receiving indicator values indicating a total time offset related to propagation delays in a network from which the time indicators are received,
- means for receiving an allocated uplink transmission slot number determined in relation to the received time indicators,

35 - time indicator offset counting means for generating a shifted time base which has an offset to the time base provided by the received time indicators,

- means for adjusting the allocated uplink transmission slot number to take into account the difference between the total time offset and an offset which said shifted time base has in relation to the time base provided by the received time indicators,
- a slot counter coupled to said time indicator offset counting means so as to synchronize itself to said shifted time base, and
- triggering signal generating means for generating an uplink transmission triggering signal from the result given by said slot counter;

5 wherein at least one of said slot counter and said triggering signal generating means is responsive to the output of said means for adjusting the allocated uplink

10 transmission slot number.